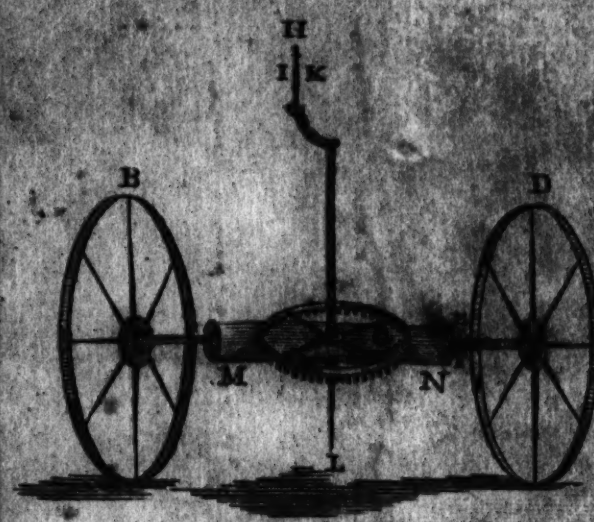


FIG. B



FIG. A



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IGNORANCE of Mathematical Sciences makes Mechanical Problems appear abstruse and astonishing to those who are not exercis'd in Mechanical Studies.

For to find out an unknown Hypothesis requir'd, amongst a confus'd Infinity of others; To be accusom'd to discern the Proportions, and the force of Mixtures; To take a right method in resolving the most Intricate and perplexing Propositions; is to have the Mind well cultivated and clear in Geometry, Arithmetic, Astronomy, and Mechanics, which are Keys to unlock the understanding and solve the greatest difficulties. Therefore upon the above mentioned Principles, the Construction of these Carriages are here demonstrated.

A description of the first Scheme A.

THE Hinder Wheels B, D, must be large and firmly fix'd to their common Axletree E, F, that one cannot move without the other.

Put a Trundle-head with strong and close spindles round the Middle of the Axletree E, F, and near to that fix upon the Beam a notched Wheel G, the notches of which may catch the spindles of the Trundle-head, and so in turning with the Handle H, I, K, that Wheel round it's Axletree K, L, which must be perpendicular to the Horizon it will turn the trundle M, N, and with that the Axletree E, F, and the Wheels B, D,—which will there upon set forward the Chaise, without Horses, or any other Animal. Observe the Axletree must enter into the Beam in order to turn within it.

A description of the second Scheme C.

The contrivance of this Machine is as follows, but put in Motion by a Foot-man which makes it go with his two Feet alternately, by virtue of two little Wheels hid in a Box between the two great Wheels a b, Figure C and made fast to the Axletree

The little Wheels in the Box are Q, Q,—in Figure B, and P, P, is a Roller the two ends of which are made fast to the Box behind the Chaise, R, is a Pulley upon which runs the Rope that fastens the end of the Planks S, T, upon which the Footman puts his Feet.

W, W. is a piece of Wood that keeps fast the two Planks at the other end, allowing them to move up and down by the two Ropes P, T, and P, S, tied to their two ends.

X, X, are two little Plates of Iron which serve to turn the Wheels Q, Q, that are fix'd to their Axletree, which is likewise fix'd to the two great Wheels B, B.

Thus you will readily apprehend that the Footman putting his Feet Alternately upon T, and S, one of the Plates will turn one of the Notch'd Wheels.

For Example!

If he leans with his Foot upon the Plank T, it descends and raises the Plank S, which cannot rise but at the same Time the Plate of Iron that enters the Notches of the Wheel must needs make it turn with its Axletree, and consequently the great Wheels.

Then the Footman leaning upon the Plank S, the Weight of his Body will make it descend and raise the other Plank T, which turns the Wheel again; and so the Motion will be continued.

You may easily Imagine that while the two hind Wheels advance, the fore Wheels must likewise advance; and that these will always advance Straight, if the Person that sits in the Chaise manages them with Reins made fast to the fore-beam.

N. B. The Velocity of these Carriages depends upon the Activity of the Manager.